



[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 030-09415; NRC-2013-0006]

License Amendment for Aptuit, LLC, Kansas City, Missouri

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental assessment and finding of no significant impact; availability.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of a license amendment to amend NRC Byproduct Materials License No. 24-15595-01 issued to Aptuit, LLC (the licensee).

ADDRESSES: Please refer to Docket ID **NRC-2013-0006** when contacting the NRC about the availability of information regarding this document. You may access publicly-available information related to this action by the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2013-0006**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual(s) listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**
You may access publicly available documents online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public](#)

[Documents](#)” and then select “[Begin Web-based ADAMS Search.](#)” For problems with ADAMS, please contact the NRC’s Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced in this document (if that document is available in ADAMS) is provided the first time that a document is referenced. In addition, for the convenience of the reader, the ADAMS accession numbers are provided in a table in Section IV of this document entitled, Availability of Documents.

- **NRC’s PDR:** You may examine and purchase copies of public documents at the NRC’s PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Michael LaFranzo, Division of Nuclear Materials Safety, Region III, U.S. Nuclear Regulatory Commission, 2443 Warrenville Road, Lisle, Illinois, 60532. Telephone: 630-829-9865; fax number: 630-515-1259; e-mail: Michael.LaFranzo@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The issuance of the amendment would approve the licensee’s decommissioning plan (DP) (ADAMS Accession No. ML13053A398), which describes the decommissioning activities that will be performed at the licensee’s facility located at 10245 Hickman Mills Drive, Kansas City, Missouri to make it suitable for unrestricted use in accordance with the NRC requirements. The NRC has prepared an Environmental Assessment (EA) in support of this amendment in accordance with the requirements in Part 51 of Title 10 of the *Code of Federal Regulations* (10 CFR part 51). Based on the EA, the NRC has concluded that a Finding of No Significant

Impact (FONSI) is appropriate. The amendment will be issued following the publication of this Notice.

II. Environmental Assessment

The NRC approved the licensee's Kansas City, Missouri facility as a location of use for radioactive byproduct materials on May 23, 1973. The NRC issued License No. 24-15595-01 to Marion Laboratories, Inc., which initially authorized the use of sealed sources and later expanded authorized activities to include research and development. Since the original license was issued, the named license holder for the Kansas City facility has been changed five times to the following: (1) Marion Merrell Dow, Inc. via Amendment No. 13, (2) Hoechst Marion Roussel via Amendment No. 19, (3) Quintiles, Inc. via Amendment No. 21, (4) Aptuit, Inc. via Amendment No. 24, and (5) Aptuit, LLC via Amendment No. 33. The primary radioactive materials that have been historically used in the Kansas City facility are hydrogen-3 and carbon-14. In 2008, Amendment No. 27 to the license was issued which substantially increased the license limits for hydrogen-3 and carbon-14 and authorized the synthesis of radiolabeled organic compounds in addition to research and development. The licensee is currently operating under Radioactive Materials License Amendment No. 34, with an expiration date of September 30, 2014.

The Aptuit facility occupies 7 of 13 primary buildings in an industrial complex adjacent to, and just east of, Interstate 435 in Kansas City, Missouri, Jackson County. The site is situated in a campus-type setting which includes offices, warehouse space, manufacturing space, and laboratory space and is located on approximately 45.5 acres of land. The Aptuit buildings total approximately 417,000 square feet (ft²) or 38,740 square meters (m²). The areas surrounding the Aptuit facility are also primarily industrial. There is commercial development to the North, South, and West of the facility and there is a residential area to the East. The nearest residence is approximately 0.25 miles to the east of the Aptuit facility. Land use is not expected to

change. The licensee did discharge licensed material out of an exhaust stack in compliance with NRC regulations.

The Proposed Action

The NRC received, by letter dated August 30, 2012 (ADAMS Accession No. ML12248A095), a proposed DP and license amendment request from Aptuit, LLC requesting approval of the DP for its facility located in Kansas City, Missouri. The DP was submitted to the NRC for approval to authorize decommissioning activities in accordance with the requirements of 10 CFR 30.36(g). An NRC administrative review, documented in a letter to the licensee dated November 8, 2012 (ADAMS Accession No. ML12314A055), found the DP acceptable to begin a technical review. Subsequently, the NRC issued a *Federal Register* notice (FRN) on January 16, 2013 (78 FR 3470), that announced Aptuit, LLC's license amendment request, solicited public and other stakeholder comments, and provided an opportunity to request a hearing and to petition for leave to intervene. No comments were received and no hearing requests or petitions for leave to intervene were submitted.

On February 7, 2013, and April 28, 2013, the NRC staff requested additional information (ADAMS Accession Nos. ML13038A630 and ML13109A304, respectively) to complete the technical review of the DP. On February 20, 2013, the licensee provided responses to the February 7, 2013, request (ADAMS Accession Nos. ML13052A443 and ML13053A402) and a revised DP (ADAMS Accession No. ML13053A398). On May 16, 2013, the licensee provided responses to the April 28, 2013, request (ADAMS Accession No. ML13137A522). The licensee also submitted a written response, dated July 19, 2013 (ADAMS Accession No. ML13204A418 providing additional information), in response to a telephonic conversation with the NRC held on July 18, 2013. The NRC developed a Safety Evaluation Report dated August 27, 2013 (ADAMS Accession No. ML13247A779). The licensee proposes to decommission the Kansas City, Missouri facility to permit the release of the site for unrestricted use, as governed by the License Termination Rule, subpart E, 10 CFR part 20, "Radiological Criteria for License Termination."

The licensee's DP proposes the clean-up of the Aptuit facility by implementing decontamination techniques to remove contamination and/or by removing impacted structures, systems, and equipment. The removed structures, systems, and equipment would then be disposed of in accordance with regulatory requirements. The DP characterized environmental media at the Aptuit facility (soil, surface water, and groundwater) as not impacted by site operations, and therefore, not a part of the clean-up activities proposed by the DP. The DP proposes the decommissioning work to be performed by a decontamination and decommissioning (D&D) contractor under the oversight and responsibility of the licensee. The licensee expects the decommissioning work to take approximately 8 months, after the proposed approval of the DP by the NRC.

The licensee's objective for the decommissioning project, as described in the DP, is to clean the site sufficiently to meet the NRC unrestricted use criteria in support of license termination. The NRC unrestricted use criteria requires, as described in 10 CFR 20.1402, "Radiological Criteria for Unrestricted Use," that residual radioactivity that is distinguishable from background radiation result in a Total Effective Dose Equivalent to an average member of the critical group not to exceed 25 millirem per year (mrem/yr). In addition, the residual radioactivity is required to be reduced to levels that are as low as is reasonably achievable (ALARA). The licensee identified carbon-14 and hydrogen-3 as the only contaminants of concern at the Aptuit facility where decommissioning activities will be performed under the proposed DP. Upon completion of the decommissioning activities, areas being released under the scope of the DP will be surveyed in accordance with the guidance contained in NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," (ADAMS Accession No. ML082470583).

To meet the NRC unrestricted use criteria, the DP established Derived Concentration Guideline Levels (DCGLs) that are based on the screening values developed by the NRC (65 FR 37186; June 13, 2000) which can be found in NUREG-1757, Volume 2, appendix H, "Consolidated Decommissioning Guidance: Characterization, Survey, and Determination of

Radiological Criteria – Criteria for Conducting Screening Dose Modeling Evaluations” (ADAMS Accession No. ML053260027). The NRC screening values for carbon-14 and hydrogen-3 are $3.7\text{E}+6$ and $1.2\text{E}+8$ disintegrations per minute per 100 centimeters squared (dpm/100 cm²), respectively. The NRC screening values are for single radionuclides, and a “sum of fractions” rule should be used for radionuclides in mixtures. The DP therefore proposes to use the most conservative screening value for the contaminants of concern, $3.7\text{E}+6$ dpm/100 cm² (screening value for carbon-14), as the basis for DCGL determination due to the difficulty in detecting hydrogen-3 when performing surveys. To meet the ALARA requirement of the NRC unrestricted use criteria, the DP proposes to use ten percent of the selected screening value as the DCGL for total activity, which is $3.7\text{E}+5$ dpm/100 cm².

The Need for the Proposed Action

The purpose of the proposed action is to reduce residual radioactivity at the Aptuit Kansas City, Missouri facility to a level that permits release of the property for unrestricted use and termination of the license. The NRC is fulfilling its responsibility under the Atomic Energy Act of 1954, as amended, to make a decision on a proposed action for decommissioning that ensures protection of the public health and safety and the environment. The application for license amendment and NRC approval is necessary for the licensee to proceed with the decommissioning activities as required by the timeliness requirements of 10 CFR 30.36(g). A change to the current license is necessary since decommissioning procedures required for the planned decommissioning activities are not authorized in the current license. The final step in the decommissioning process is license termination.

Environmental Impacts of the Proposed Action

The NRC staff has reviewed the DP for the Aptuit, LLC Kansas City, Missouri facility and examined the impacts of decommissioning. Based on its review, the staff has determined that the affected environment and the environmental impacts associated with this decommissioning action are bounded by the impacts evaluated by NUREG-1496, “Generic Environmental Impact

Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities” (ADAMS Accession Nos. ML042310492, ML042320379, and ML042330385). The staff also finds the proposed decommissioning of the Aptuit, LLC Kansas City, Missouri site is in compliance with 10 CFR 20.1402, the radiological criteria for unrestricted use.

Since ceasing operations, the Aptuit, LLC site has been stabilized to prevent contamination from spreading beyond its current locations. Access to the contaminated areas is controlled to assure the health and safety of workers and the public. No ongoing licensed activities, other than limited decommissioning activities, are occurring in the facilities.

Contamination controls will be implemented during decommissioning to prevent airborne and surface contamination from escaping the remediation work areas, and therefore no release of airborne contamination is anticipated. However, the potential will exist for generating airborne radioactive material during decontamination, removal and handling of contaminated materials. If produced, any effluent from the proposed decommissioning activities will be limited in accordance with NRC requirements in 10 CFR part 20 or contained onsite or treated to reduce contamination to acceptable levels before release, and shall be maintained ALARA. Radioactive waste (e.g., HEPA filters, metals, bench tops, etc.) will be containerized onsite pending shipment to a licensed radioactive waste treatment or disposal facility. No liquid effluents are expected to be generated during decommissioning.

Aptuit, LLC and subcontractors will perform the remediation under the Aptuit, LLC license. Therefore, Aptuit, LLC will oversee the activities and will maintain primary responsibility for the decommissioning activities at the site. The Aptuit, LLC facility has adequate radiation protection procedures and capabilities, and will implement an acceptable program to keep exposure to radioactive materials ALARA. As noted above, Aptuit, LLC, has prepared a DP describing the work to be performed, and work activities are not anticipated to result in a dose to workers or the public in excess of the 10 CFR part 20 limits. Past experiences with decommissioning activities at sites similar to the Aptuit, LLC facility indicate that public worker

exposure will be far below the limits found in 10 CFR part 20, "Standards for Protection Against Radiation."

Environmental Impacts of the Alternatives to the Proposed Action

The only alternative to the proposed action of allowing decommissioning of the site is no action. The no-action alternative would leave the site in its existing condition, which would keep licensed, radioactive material above the NRC's unrestricted release criteria of 25 mrem onsite. This alternative would increase the radiological risk to the local community and the environment. The no-action alternative is not acceptable because it will result in violation of NRC's Timeliness Rule (10 CFR 30.36), which requires licensees to remove licensed materials onsite during decommissioning of their facilities when licensed activities cease, and to request termination of their radioactive materials license.

Agencies and Person Consulted

The NRC staff has determined that the proposed action will not affect listed species or critical habitats. Therefore, no further consultation is required under Section 7 of the Endangered Species Act. Likewise, the NRC staff has determined that the proposed action is not the type of activity that has potential to cause effects on historic properties. Therefore, consultation under Section 106 of the National Historic Preservation Act is not required.

The NRC staff consulted with the Missouri Department of Health and Senior Services on March 8, 2013, regarding this Environmental Assessment (EA) for the license amendment to authorize decommissioning activities. The State Department of Health and Senior Services is the State's Radiation Protection Agency, and has been informed of NRC's intention to approve the completion of decommissioning at the Aptuit, LLC site. The State informed the NRC on March 19, 2013, that they had no comments on the EA.

Conclusion

The NRC staff has concluded that the proposed action complies with 10 CFR part 20, “Standards for Protection Against Radiation.” Decommissioning of the Aptuit, LLC site to the DCGLs proposed for this action will result in reduced residual contamination levels at the site, enabling release of the site for unrestricted use and will allow the termination of the radioactive materials license. No radiologically contaminated effluents are expected during the decommissioning. Occupational doses to decommissioning workers are expected to be low and well within the limits of 10 CFR part 20. No radiation exposure to any member of the public is expected, and public exposure will therefore also be less than the applicable public exposure limits of 10 CFR part 20.

Because the proposed action will not significantly impact the quality of the human environment, the NRC staff concludes that the proposed action is the preferred alternative.

III. Finding of No Significant Impact

The NRC has prepared this EA in support of the proposed license amendment to incorporate appropriate and acceptable DCGLs and to use the proposed DCGLs for the planned decommissioning by the licensee at the Aptuit, LLC facility. The NRC staff has found that the radiological and non-radiological environmental impacts from the proposed amendment are bounded by the impacts evaluated in NUREG-1496. On the basis of the EA, the NRC has concluded that the environmental impacts from the proposed action are expected to be insignificant and has determined not to prepare an environmental impact statement for the proposed action.

IV. Availability of Documents

Documents related to this action, including the application for amendment and supporting documentation, are available electronically at the NRC Library at

<http://www.nrc.gov/reading-rm/adams.html>. From this site, you can access ADAMS, which provides text and image files of NRC's public documents. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." The ADAMS accession numbers for the documents related to this notice are:

Reference	Title of Document	ML Number
1	NUREG-1496, Vol. 1, "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities, Main Report"	ML042310492
2	NUREG-1496, Vol. 2, "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities, Appendices A and B, Final Report"	ML042320379
3	NUREG-1496, Vol. 3, "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities, Appendices C-H"	ML042330385
4	NUREG-1757, Vol. 1, Rev. 2, "Consolidated Decommissioning Guidance: Decommissioning Process for Material Licensees"	ML063000243
5	NUREG-1757, Vol. 2, "Consolidated Decommissioning Guidance: Characterization, Survey, and Determination of Radiological Criteria"	ML053260027
6	NUREG-1757, Vol. 3, "Consolidated Decommissioning Guidance: Financial Assurance, Recordkeeping, and Timeliness"	ML032471471
7	NUREG-1575, Rev. 1, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)"	ML082470583
8	Aptuit Scientific Operations, LLC, Decommissioning Plan (MC 579062)	ML12248A095
9	LTR-Aptuit, LLC Acceptance of Decommissioning Plan for Technical Review (Mail Control No. (MC) 579062)	ML12314A055
10	Letter to Aptuit re: Request for Additional Information to Support Decommissioning Plan Approval (MC 579062)	ML13038A630
11	Letter from Aptuit, LLC RAI Response Package dated February 20, 2013 (MC 579062)	ML13052A443
12	Letter from Aptuit, LLC in response to NRC RAI Package dated February 20, 2013 (MC 579062)	ML13053A402
13	Decommissioning Plan Aptuit Scientific Operations, Revision 1 dated February 2013 (MC 579062)	ML13053A398
14	Letter to Aptuit, LLC RAI Package dated April 28, 2013 (MC 579062)	ML13109A304

15	Letter from Aptuit, LLC in response to NRC RAI Package dated May 16, 2013 (MC 579062)	ML13137A522
16	Letter from Aptuit, LLC RAI Response Package dated July 19, 2013 (MC 579062)	ML13204A418
17	Safety Evaluation Report	ML13247A779

Dated at Lisle, Illinois this 5th day of September, 2013.

For the Nuclear Regulatory Commission.

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